SH50-50 Shielded Cable

This guide describes how to use the SH50-50 shielded cable to connect a National Instruments data acquisition (DAQ) or Motion Control device to accessories and terminal blocks.

Introduction

The SH50-50 shielded cable has a 50-pin female connector with a spade terminal grounding strap on one end and a 50-pin female connector with a ring terminal grounding strap on the other end. The connectors are wired pin-to-pin with a 25 twisted pair shielded cable.

The SH50-50 cable kit also includes a 3 in. ribbon cable and replacement brackets for your 50-pin AT board or NB board bracket. You can use the brackets to modify your 50-pin board so that you can connect it to an accessory via the SH50-50 cable.

What You Need to Get Started

To set up and use your cable, you will need the following items:

- ❑ SH50-50 shielded cable
- ❑ *SH50-50 Shielded Cable Installation Guide*
- ❑ A compatible National Instruments device
- ❑ Number 1 Phillips-head screwdriver
- ❑ 3 in. 50-to-50-pin ribbon cable (included in kit)
- ❑ Replacement brackets with spade terminals (NB and AT) (included in kit)

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Replacing the Bracket

Before you install the SH50-50, you must replace the bracket on your board with the appropriate bracket from the SH50-50 kit, unless your board already has a bracket with a spade contact, as shown in Figure 4. If your board has a bracket with a spade contact, read the *Installing the Cable* section.

Use the following steps to replace the brackets on your board:

1. Turn off the power to your computer.
2. Remove your board from your computer.
3. Remove the two screws that attach the bracket to the board.
4. Remove the bracket from the board. See Figure 1 for NB board bracket removal or Figure 2 for AT board bracket removal.

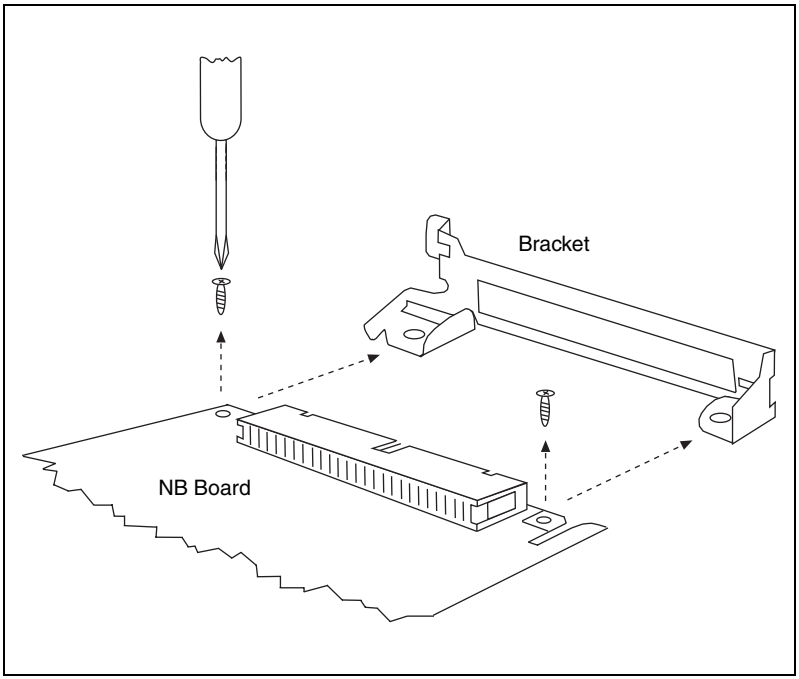


Figure 1. Removing the Bracket from an NB Board

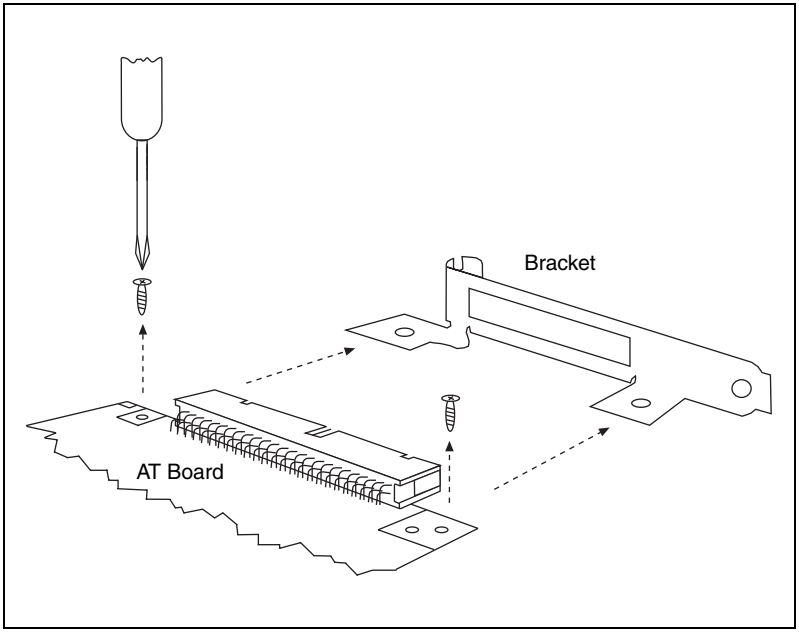


Figure 2. Removing the Bracket from an AT Board

5. The 50-pin I/O connector on your board may have small plastic key inserts installed for mating with military polarized connectors. Because these keys are incompatible with the 50-pin connector on the SH50-50 cable, you must remove them. The SH50-50 connector has a center polarization bump that prevents you from inserting the connector upside down.

   To remove the key inserts, use a thin probe such as a pencil or a pen tip to gently press down on the release tab in the center of the key insert, as shown in Figure 3. Then use the probe to lift up the back end of the key insert and slide the insert off the connector.

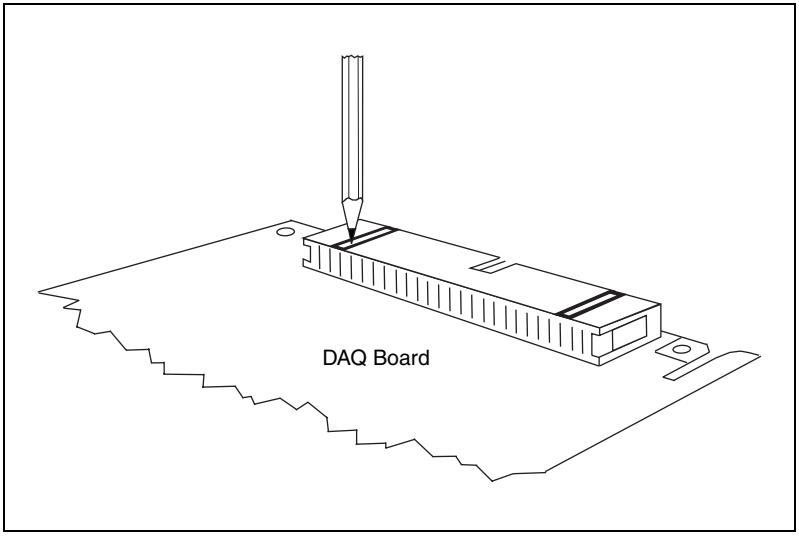


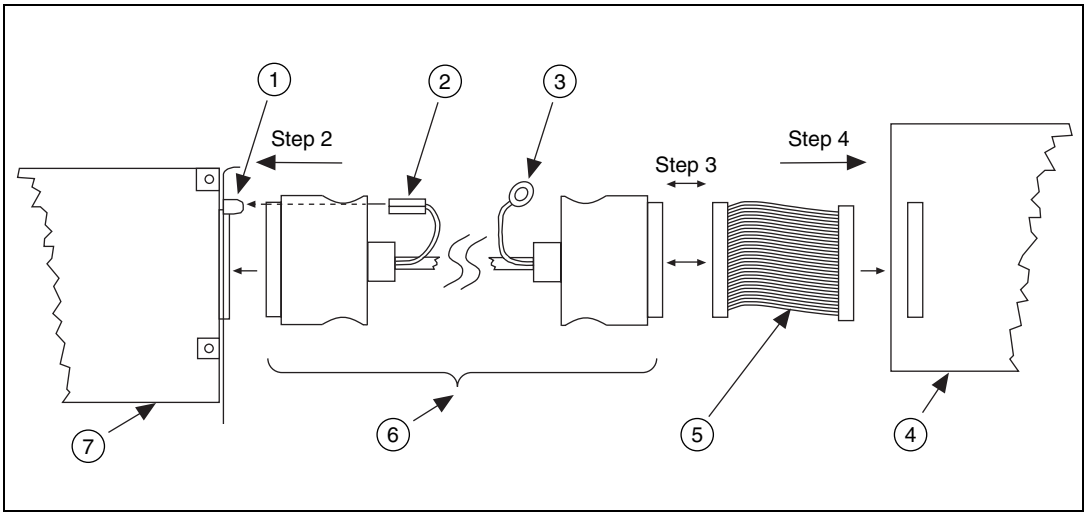
Figure 3. Removing the Key Inserts

6. Identify the appropriate replacement bracket for your board from your SH50-50 kit. The bracket that you use should look like the one you remove, except that the new one has an extra tab that mates with the grounding strap on the SH50-50 cable assembly.
7. Install the new bracket by aligning the bracket with the holes in your board and attach the two mounting screws.

Now you are ready to connect the SH50-50 shielded cable to a 50-pin board and accessory.

Installing the Cable

Figure 4 illustrates how to connect the SH50-50 shielded cable and the 3 in. ribbon cable to a 50-pin board and a 50-pin accessory.



1	Spade Contact	5	3 in. Ribbon Cable
2	Grounding Strap with End Lug	6	SH50-50 Shielded Cable
3	Grounding Strap with Eyelet	7	50-Pin Board
4	50-Pin Accessory		

Figure 4. Connecting to a 50-Pin Board

Follow the instructions below to install the SH50-50 cable to a 50-pin board and accessory:

1. Install your board in a slot in your computer, following the instructions in your board user manual.
2. Connect the 50-pin connector of the SH50-50 cable with the spade terminal grounding strap to the board I/O connector. Slide the spade terminal onto the spade contact of the bracket, as shown in Figure 4.
3. Connect the 50-pin connector with the ring terminal grounding strap to your accessory. Attach the ring terminal to any available grounding screw on your accessory.
4. To improve flexibility, the 3 in. ribbon cable extender may be used at the accessory end of the SH50-50.